Balancing Interests:
A Review of Lost Revenue Adjustment Mechanisms for Utility Energy Efficiency Programs

Sara Hayes, Steven Nadel, Martin Kushler, and Dan York

September 2011

Report Number U114

529 14th Street, N.W., Suite 600, Washington, D.C. 20045
(202) 507-4000 phone, (202) 429-2248 fax, aceee.org

CONTENTS

ACKNOWLEDGMENTS

We thank the Robertson Foundation and the Energy Foundation for funding this project. We also thank John Sibley of the Southeast Energy Efficiency Alliance, Tammy Fiebelkorn and Ellen Zuckerman of the Southwest Energy Efficiency Project, Jill Tauber of the Southern Environmental Law Center, Dylan Sullivan and Ralph Cavanagh of the Natural Resource Defense Council, Chuck Goldman and Andy Satchwell of the Lawrence Berkley National Laboratory, and Jim Lazar of the Regulatory Assistance Project for helpful comments on a draft of this report. We also thank the many contacts in states, too numerous to list here, who participated in the survey and provided information on incentive mechanisms.

Thank you also to our ACEEE colleague Renee Nida for her assistance in the review, production, and release of the report.

EXECUTIVE SUMMARY

Helping utility customers save energy through improved energy efficiency can work against a utility's financial interest. Under most existing ratemaking approaches for investor-owned utilities (IOUS), such reductions in energy use result in reduced energy sales, which can prevent a utility from fully recovering its authorized revenues. These reduced energy sales result in what are sometimes referred to as "lost revenues." This direct relationship between revenues and the volume of electricity sold in the traditional IOU regulatory model creates a fundamental challenge to securing utility cooperation and support for providing energy efficiency programs for customers. In order to align utility incentives to encourage energy efficiency, policymakers have developed several approaches to address the "lost revenue" problem.

This report focuses on one mechanism for attempting to address this problem, a "lost revenue adjustment mechanism" (LRAM).[1] Our focus is to provide information about LRAMs and catalog recent experience with this policy tool. We review these experiences and discuss the pros and cons associated with this approach.

In the early 1990s a few states established LRAMs, but the approach was essentially abandoned in the late 1990s. Most documents associated with the experience in the 1990s are not readily available, but communications with some key participants in these proceedings indicate that in some cases LRAMs resulted in contentious and time-consuming proceedings and even the unintended consequence of causing a utility to reduce its energy efficiency investments through its customer programs.

In spite of previous negative experience, LRAMs appear to be having a resurgence of popularity recently. We found thirteen states with current or pending LRAMs. Of those, only four states have more than a year of experience. The recent and limited experience with LRAMs makes assessment of this approach difficult and somewhat premature. For example, we were not able to make comparisons between forecasted savings used to estimate lost revenues and actual program results. Due to the newness of these programs and general lack of data, this topic should be revisited in the future as more experience and results are available. In spite of these limitations, we are able to make some general observations.

- The use of LRAM has been increasing in recent years, particularly in states with relatively limited prior experience with utility energy efficiency programs and modest levels of energy efficiency spending.
- There is a lack of available data on prior experiences with LRAM. There is also a lack of data on current LRAM approaches as most are just beginning.
- No standard approach has emerged. Instead, states are tailoring their approaches to lost revenues to fit their unique circumstances and preferences.

Based on our research and feedback from industry experts we were able to identify the following challenges that states implementing LRAMs are facing:

- LRAMs don't completely remove the disincentive to implement energy efficiency programs.
- LRAMs don't remove the incentive to invest in new supply capacity—the "throughput" incentive.
- LRAMs provide an asymmetrical upward adjustment to utility revenues, allowing utilities to potentially collect more than their authorized revenues.
- LRAMs address lost revenues separately from other barriers to efficiency and may lead to perverse incentives.

[1] This report on LRAM complements an ACEEE report on shareholder incentives (Hayes et al. 2011) and a report by the Regulatory Assistance Project (RAP) on decoupling (Lazar, Weston, and Shirley 2011).

- Evaluation, measurement, and verification (EM&V) of energy savings determine a utility's ability to collect lost revenues and can therefore be controversial.
- LRAM regulatory cases may be time-consuming and controversial because of the financial implications of these outcomes, both on utilities and their customers.

Discussion of each of these challenges is included in the report.

Some experts raised significant concerns regarding whether an LRAM can best align incentives to promote efficiency by utilities. However, due to the limited experiences with this approach we were not able to gather enough information to present a full analysis of the effectiveness of the mechanism. Many of the challenges unique to an LRAM are not at issue in states using a decoupling approach; however, the research for this report does not include an analysis of decoupling that could be used to compare results.

If states proceed with an LRAM, evidence indicates that lost revenue recovery periods should be short term (three years or less) and subject to regular "true-up" comparing forecasted savings used to calculate lost revenues with actual program experience, and also comparing actual sales to the forecasts used to generate rates. These procedures help to ensure that utilities are reimbursed for revenues that are truly lost due to increased energy efficiency. Appropriate EM&V protocols and practices for determining energy savings should be established prior to the implementation of efficiency measures. Finally, LRAM addresses only the "through-put" incentive faced by utilities in their conventional regulatory framework. Without further incentives, the utility's business case for energy efficiency investments is still weak. Such investment for efficiency generally remains a less attractive option than investments in new generation.[2]

[2] This issue is discussed in further detail in a recent ACEEE report on shareholder incentives (Hayes et al. 2011).

BACKGROUND

Most electricity and natural gas customers in the United States are served by investor-owned utilities (IOUs), which are private companies owned by shareholders. The rates IOUs charge customers are regulated because of the monopoly status granted them as a "public" utility. Under traditional rate regulation, regulators determine the revenues that an IOU is authorized to recover from customers. An IOU's authorized revenues include fixed costs and variable costs, plus a rate of return on capital investments (e.g., generation plants and other assets).

Electric or natural gas rates are set to allow the IOU to recover authorized costs based on anticipated energy sales. Energy sales greater than the anticipated volume increase IOU revenues and profits. If sales are less than the anticipated volume, the utility will have lower revenues and may not recover its operating costs and authorized rate of return.

This traditional ratemaking approach creates a disincentive for utilities to promote energy efficiency by customers. Customers that reduce energy consumption by improving energy efficiency reduce the volume of electricity sold and the revenues associated with these sales. Furthermore, if the utility increases sales it will increase the amount of revenues it collects. This creates an incentive to sell more electricity, which is sometimes referred to as the "throughput incentive."

The direct relationship between revenues and the volume of electricity sold in the traditional IOU regulatory model creates a fundamental challenge to securing utility cooperation and support for improving customer energy efficiency. In order to remove the disincentive for investment in energy efficiency, policymakers have developed several principle approaches, which we describe below:

Lost Revenue Adjustment Mechanism (LRAM) is a rate adjustment mechanism that allows the utility to recover revenues that are "lost" due to energy savings from approved efficiency programs. A typical approach includes some type of evaluation of energy savings attributed to energy efficiency programs, to establish the amount of sales lost. Then that figure is multiplied by some established amount of fixed cost per unit of energy (e.g., kilowatt-hour or therm), to determine the amount of additional revenue the utility is entitled to receive from customers. This additional amount is often collected via an adjustment to rates in the form of a "rider" on the customer's bill.

Decoupling is a rate adjustment mechanism that allows the utility to recover its investment and operating costs independent of the volume of actual electricity sales. Generally a symmetrical "true-up" is applied to adjust rates (up or down) to compensate for any difference between allowed and actual revenues. This true-up occurs periodically regardless of the cause of the change and whether the change is an increase or decrease from expected sales.

Rate Case Approaches to lost revenues account for "lost" sales resulting from efficiency programs during the larger rate case, when a variety of factors are considered, rather than as a separate rider. Rate case approaches may be particularly attractive when regular and frequent rate cases occur. Some states consider a "forward looking" approach to utility costs and revenues and establish rates based on forecasts of expected expenses and sales. Using this approach, a utility may forecast energy savings from efficiency programs as part of its overall rate case. These estimates may then be re-calibrated at the next regular rate case based on actual program experience, and a new forecast would be developed for the next rate period. Other states establish rates based on a "historic-looking" period of utility costs and sales. In these states, actual experience on sales levels may be factored into ratemaking in the next rate case.

Straight Fixed-Variable (SFV) Ratemaking is an approach that separates a utility's fixed and variable costs on the customer's utility bill. The utility's short-term fixed costs, generally including all investment and labor costs, are built into a customer's monthly base charge while only its

short-term variable costs, such as fuel and purchased power expenses, are included in the unit price of electricity. This approach ensures that a utility will be able to recover its fixed costs irrespective of sales levels. However, it can have the effect of reducing the customer incentive to save energy because the ”price” that the customer sees for each kilowatt-hour consumed is much lower than under traditional ratemaking (because many costs were moved over into the fixed monthly charge). In that situation, any actions a customer might take to reduce electricity consumption will provide fewer dollar savings—thus diminishing the incentive to take energy efficiency action.

Shareholder Incentives are mechanisms that allow utilities to earn financial rewards for successful energy efficiency programs. The traditional utility business model doesn't provide opportunities to earn financial returns on energy efficiency comparable to the opportunities that exist for investments in new capital investments. In order to also make energy efficiency programs an attractive option for utility management, policymakers have adopted shareholder incentives that allow utilities to earn a profit from their energy efficiency program activities. A variety of approaches for structuring shareholder incentives have been developed. Shareholder incentive mechanisms can help to level the playing field between investments in efficiency and new capital, but they do little or nothing to address the income that is lost when a utility sells less electricity as a result of improving customer efficiency.

It is critically important that mechanisms for properly aligning utility incentives to encourage efficiency be considered together as part of an overarching approach to correct long-standing barriers inhibiting investments in efficiency. For example, states that want to maximize their efficiency resources should consider employing: (1) a reliable method of cost-recovery for energy efficiency program expenditures; (2) a mechanism to address the concern about energy efficiency resulting in reduced sales throughput; and (3) a shareholder incentive mechanism to provide an opportunity for the utility to profit from successful performance with customer energy efficiency programs. While this report focuses on a single type of mechanism, LRAMs, it is intended to complement ACEEE's recent report on shareholder incentive mechanisms (Hayes et al. 2011) and the Regulatory Assistance Project report (Lazar, Weston, and Shirley 2011). In addition, the National Action Plan for Energy Efficiency Leadership Group has published a report discussing all of these approaches (NAPEE 2007).

METHODOLOGY

Research for this report began with a literature review of publications on the topic of LRAMs, from which we developed our working definition for this project. We completed a survey of states to determine which states had policies that met the definition of LRAM in place prior to 2009, and which were currently in use. This approach yielded only a few states. We conducted detailed research on the mechanisms in these states, including attempts to interview experts from each state. Due to the limited number of states meeting our initial definition of LRAM, we extended our research to include a number of additional states by considering additional approaches to address lost revenues as well as very recently adopted LRAM mechanisms. This expanded set of states represents a range of current approaches to lost revenues. This range does not include shareholder incentives or decoupling as these approaches are discussed in separate publications. The additional states are not exhaustive of all states that may have a policy with elements of our definition of LRAM. Based on this research we have made some preliminary observations regarding common trends emerging. We discuss our results and observed trends below.

LOST REVENUE ADJUSTMENT MECHANISMS IN PRACTICE

Lost revenue adjustment mechanisms were used in a number of states in the 1990s but then fell into disuse. We were able to find only limited documentation explaining the reasons why states abandoned their LRAMs. However, feedback from interviews with experts indicates that

experience with LRAM in the 1990s included long and contentious proceedings to determine how much energy had been saved and how much revenue was lost. Since every additional kilowatt-hour of savings resulted in more revenue to the utility and higher lost revenue payments, the participants fought hard over every kilowatt-hour (Sedano 2011). The structure of LRAM in some cases created significant increases in the price of electricity and cost recovery from LRAM grew so large that it threatened to exceed the costs of efficiency programs. Other problems with LRAM included cases where utilities were double-recovering authorized costs and earning above the allowed cost of equity on capital. In Minnesota LRAM recovery was rejected, in part, because Northern States Power Company's earnings were more than 2% above the authorized returns before recovery of "lost" revenues (MN PUC 1999).

In recent years some states have begun to experiment with LRAM policies again. As of this writing we are aware of 11 states where regulators have approved LRAM. However, many of these are very recent and the pool of states for which data are available on experience implementing LRAM policies is very limited. We are aware of only four states with more than one full year of recent LRAM experience. Additionally, states are tailoring policies to fit their specific needs and no uniform approach has emerged. Finally, some states limit the application of their LRAM very narrowly or even to a single efficiency program, making the data pool even smaller. The evolving landscape and differences between theory and practice make drawing conclusions about LRAM particularly difficult.

Because the sample of states with LRAM data available is so small, we have reviewed several other states with mechanisms that address lost revenues including some with variations on the LRAM approach or where an LRAM has been recently approved. The additional state approaches included in report are not an exhaustive list of all states with mechanisms that meet any of these criteria, but are intended to demonstrate some of the variations across lost revenue policy approaches utilized by states.

In addition to specific formalized mechanisms for recovery of revenue losses resulting from efficiency programs, a number of states are addressing the lost revenues concern via a Rate Case Approach. The Florida Public Service Commission has concluded: "Energy saving [demand side management] programs can have an impact on a utility's base rates…. When revenues go down because fewer kWh were consumed, the utility may have to make up the difference by requesting an increase in rates in order to maintain a reasonable [rate of return]." (FL PSC 2009). In a Rate Case Approach, the savings from efficiency programs are reflected in the calculation of the base rate rather than a rider added to the base rate as part of a separate proceeding. While the discussion in this report focuses on LRAM, a number of states have recently opted to address lost revenues via a Rate Case Approach.

The varied approaches have led to some disagreement across states and between regulators, utilities, and policy experts regarding how to categorize practical approaches to lost revenues. For example, Alabama Power has an annual process for adjusting rates called the Rate Stabilization and Equalization procedure, which permits an annual true-up to ensure the company is receiving its authorized returns, which is capped and may be adjusted downward depending on overall profits. Alabama Power has argued this approach amounts to decoupling. The approach doesn't meet our definition of decoupling and it doesn't fit within our definition of LRAM. Furthermore, a common view of LRAM approaches is that lost revenues are recovered retrospectively and trued-up annually; however, some utilities are proposing to recover lost revenues prospectively and true them up annually. For purposes of this discussion we have included states where lost revenues are prospective and subject to annual true-up within the definition of LRAM, if the lost revenues are included in a rider and not part of the larger rate case.

As Table 1 demonstrates, experience with the current generation of LRAM mechanisms is very recent. Most state mechanisms have been so recently approved that little or no data regarding the results are available. The small and varied sample makes drawing conclusions about the successes and failures of LRAM as a policy solution challenging.

Table 1: Current Examples of State Approaches to Lost Revenues

State	Description	Status
Arizona	Tucson Electric Power has proposed a mechanism including lost revenue recovery via an "Authorized Revenue Requirement True-up" (AART) (Tucson Electric Power 2011).	Pending
Arkansas	Arkansas Public Service Commission has approved an annual process for recovery of lost revenues through a rider subject to true-up (Neubauer 2010).	Approved 2010
Colorado*	Utilities are permitted to recover a fixed "disincentive offset" based on energy savings.	Established 2008
Georgia*	Georgia Power is authorized to collect lost revenues for a single efficiency program via a rate rider called an "additional sum."	Revised in 2010
Hawaii*	Hawaiian Electric Company was authorized to collect lost revenues annually until reduced sales were incorporated into base rates.	Replaced with decoupling
Indiana	In 2009 Vectren's request for a decoupling mechanism was denied. Vectren renewed the request, which was rejected for electric utilities (IN URC 2011a). Indianapolis Power and Light collects an adjustment to revenues based on the difference between actual and forecasted revenues (IN URC 2011b).	Rejected in 2011 Reconfirmed in 2011
Kentucky*	Duke, AEP, and Louisville Gas & Electric collect lost revenues based on estimated energy savings via a rate rider subject to true-up.	Reconfirmed in 2010
Louisiana	In the city of New Orleans, Entergy is permitted to recover lost contributions to fixed costs through a rider. LRAM is under active consideration by the state Public Service Commission (LA PSC 2011).	Effective as of 2010 Pending
Montana*	Northwestern Energy adjusts rates annually based on estimated savings. True-up to actual savings occurs annually.	Other options currently under consideration
Nevada*	Rates are adjusted annually based on estimated energy savings and are subject to annual true-up.	Effective 2010
New Mexico	Southwestern Public Service Company (Xcel) and El Paso Electric Company have proposed LRAMs in cases that are pending (NM PRC 2010).	Pending
North Carolina*	Duke and Progress Energy may recover net lost revenues resulting from energy efficiency programs using a rider. Recovery excludes avoided costs resulting from efficiency programs and any increases in demand caused by utility activities. True-up to actual savings occurs annually.	Approved in 2010
Ohio*	Duke recovered lost revenues using riders based on future impact studies for three residential programs. It also recovered lost revenues through its electric DSM rider for gas furnace programs. AEP is permitted to recover net lost distribution revenues from approved efficiency programs via a rider. True-up to actual savings occurs annually.	Replaced by Save-A-Watt in 2009[3] Approved in 2010

[3] Under the SAW program Duke received earnings based on lost revenues for three years following program implementation. At the end of the three-year period (the fourth year) Duke will credit or charge back any difference between the projected energy impacts collected and the actual energy impacts

State	Description	Status
	FirstEnergy also collects lost revenues via a rider.	Approved in 2009
South Carolina*	South Carolina Electric & Gas, Duke, and Progress Energy have regulatory approval to receive recovery for lost revenues via a rider. True-up to actual savings occurs annually.	Approved in 2009 and 2010
Virginia*	The state provides for the recovery of revenue reductions related to energy efficiency programs through a rider. However, Dominion Virginia Power applied for recovery of lost revenues in a regular rate case instead of the annual rider.	Amended in 2009
Wyoming*	Annual energy savings from load management are recovered via a rate adjustment made per kWh. True-up to actual savings occurs annually.	Implemented 2008

* Additional detail is provided in Appendix A.

In practice, state approaches to lost revenue do not always fit into one of the previously defined policy approaches. Given this, we have had to make some judgments about which state programs we consider LRAMs and we acknowledge that some of these conclusions may be subject to debate. With this in mind, Table 2 summarizes our findings.

In Georgia, lost revenues have never been collected via the rider designed to include them, meaning that while LRAM has been approved for over a year the state isn't actually "experienced" in the use of the mechanism. Of the thirteen states where LRAM is in place or is pending, only four have experience that is longer than one year. Within those four states, data on lost revenues is very limited. The LRAM in Wyoming applies to a small service territory and applies to load management programs only. The LRAM in Louisiana is not statewide, but applies only to the city of New Orleans.

Kentucky and Montana each have several years of experience with their LRAMs. A side-by-side comparison of some of the key terms of their approaches is included in Table 3.

Table 2: LRAM States

	Total	States
"Experienced" LRAM States	4	Kentucky, Louisiana, Montana, and Wyoming
"New" LRAM States	7	Arkansas, Georgia, Nevada, North Carolina, Ohio, South Carolina, and Virginia
"Pending" LRAM States	2	Arizona and New Mexico

Table 3: Comparison of LRAM Structures in Kentucky and Montana

	Method of Recovery	Timing of Lost Revenue Recovery	True-Up to Actual Experience	Permissible Recovery of Lost Revenues	Verification of Savings	Other Approaches to Lost Revenues
Kentucky	Rate adjustment rider	Included in rider for up to 3 years or the next base rate case.	Annual	Approved programs based on case-by-case determination of regulator	Not statutorily required	Regulator issued a report in 2008 considering decoupling, but opted not to adopt
Montana	Rate adjustment rider	Included in rider for up to 3 years or the next base rate case.	Annual	Approved programs based on case-by-case determination of regulator	Independent third-party verifier	Stakeholder process to consider alternatives, including decoupling, ongoing.

We attempted to compare forecasted energy savings used to collect lost revenues with actual true-up in order to determine whether revenues were in fact lost relative to the forecast used to develop rates. However, we were not able to find comparable before and after data. For example, in Kentucky, at Louisville Gas & Electric, the rider which is used to collect lost revenues (DSMRC) includes a "DSM Balance Adjustment." This balance adjustment is a negative number and appears to be a return of revenues as part of the demand-side management rider. This may be due to an over-collection of revenues; however, no estimated savings or shortages are provided. Rather a cost per unit of energy adjustment to the total rate is made that does not tell observers how much money was over-collected or how far off the energy savings estimates were (KY PSC 2008). While data is limited, we were able to locate some the estimated lost revenues, energy savings, and total demand-side management expenditures by year for some of the utilities subject to the LRAMs in Kentucky and Montana. This limited data is included in Table 4.

Table 4: LRAM Data for Select Utilities in Kentucky and Montana

Utility	Year	Estimated Lost Revenues	Annual DSM Costs (EIA-861)	DSM Energy Savings
LG&E–Kentucky (Adjustments to DSM 2008)	2009	$619,740	$8,484,000	18,364 MWh
Kentucky Power (AEP) (KY PSC 2009)	Program-to-date 2010 (partial year) 2009 2008	$3,870,575 $166,495 $274,814 $220,181	 $628,000 $788,000	 4,581 MWh (2010 estimate)
NorthWestern Energy–Montana (Magraw 2010)	2009-2010 2008-2009 2007-2008 2006-2007 2005-2006 2004-2005	$273,196 (2004-2005)	NA	60,707 MWh 58,604 MWh 47,041 MWh 29,784 MWh 29,872 MWh 19,798 MWh

The following sections make limited observations and draw tentative conclusions regarding the trends that are emerging across states attempting to address the problem of lost revenues with LRAM.

OBSERVATIONS AND TRENDS

Based on our research we have made a number of observations about the trends evolving in terms of states' use of LRAM to address reductions in utility revenues resulting from energy efficiency programs.

- **The use of LRAM appears to be increasing in recent years**, particularly in states with relatively limited prior experience with utility energy efficiency programs and modest levels of energy efficiency spending. However, most states with major energy efficiency efforts that have adopted some mechanism to address the lost revenues issue have chosen a decoupling approach. Of the top twenty states with the highest electric utility investment in efficiency (per capita), only two states have LRAMs while fourteen of those states have, or are considering, decoupling.[4]

- **There is a lack of available data based on prior experiences with LRAM.** Data from LRAMs implemented in the early 1990s are not readily available. This is not unique to LRAM. Electronic files from the early 1990s are simply not widely available in certain sectors. Furthermore, there is significant workforce turnover in a 20-year period, which divests the industry of knowledge learned from the previous LRAM experiments.

- **There is a lack of current LRAM data nationally.** In large part this is due to the newness of so many of the programs. However, in some states with established LRAMs, the data are not reported in a way that is transparent. For example, we were not able to find data that would allow a comparison of forecasted energy savings for an approved efficiency program (and the associated lost revenues authorized) to the actual savings measured by a program put in place.

- **States are tailoring their approaches to lost revenues to fit their unique circumstances.** No standard LRAM model has emerged. States are recognizing the need to account for lost revenues; however, many are opting to resolve the details for how best to address this issue on a case-by-case basis. Some states are addressing lost revenues via adjustments made in frequent rate cases. This can make the practical distinctions between LRAM and a Rate Case Approach less clear. Determining which of the various lost revenue mechanisms a state approach reflects is often unclear and there is sometimes disagreement between regulators, utilities, and policy experts.

- In spite of the variety of approaches across states, **there are common elements that seem to be reoccurring in new LRAM approaches**:

    - Lost revenues are forecast based on energy savings from specific approved efficiency programs.
    - Utilities collect revenue "losses" based on forecasts of efficiency programs in advance of, or simultaneously to, the implementation of efficiency programs. These estimates are generally "trued-up" annually based on actual experience, pursuant to some kind of EM&V plan.
    - States are setting limits on the number of years that may pass before a utility is no longer permitted to request recovery of lost revenues. Often a limit of the earlier of three years or the next base rate case is imposed.

[4] Washington state had decoupling and is a top 20 state, but is not counted in this number because it does not currently use decoupling. Including Washington would bring the total to 15 out of 20.

DISCUSSION

As previously mentioned, utilities operating in the traditional regulatory model have a disincentive to implement energy efficiency programs that will reduce customer energy consumption because utility revenues will also be reduced. Policy mechanisms to remove this disincentive include decoupling and LRAM (among others). Decoupling is the more common of these two approaches. As of 2010, approximately 30 states had some type of decoupling mechanism authorized for one or more gas or electric utilities (Molina et al. 2010). [5] The goal of a decoupling mechanism is to sever the direct relationship between a utility's sales and its revenues. In a system where authorized revenues are calculated based on other variables, such as the number of customers served, then a utility may still recover its fixed costs and authorized rate of return even if total consumption is reduced.

In the most common form of decoupling (sometimes referred to as "true symmetrical decoupling"), actual revenues and authorized revenues are compared in a proceeding and any difference is "trued up" via an adjustment to rates reflecting a surcharge or refund. This approach protects utilities from any loss in revenues that may have occurred due to customer energy efficiency programs. In addition, the incentive to increase revenues by increasing capacity or sales (the throughput incentive) would be eliminated, because excess revenues are refunded to customers.

"Lost revenue adjustment mechanism" refers to an approach where the utility is permitted to recover revenues lost due to reduced sales resulting directly from energy savings achieved via efficiency programs. In this manner, LRAM removes the utility's disincentive to invest in energy efficiency programs due to reduced sales. An LRAM does not attempt to completely sever the link between revenue and sales as increases or decreases in sales due to other factors (e.g., weather or the state of the economy) will continue to affect utility revenue. Also, the LRAM approach does not remove the overall incentive to increase energy sales to customers. From a conceptual standpoint, the use of an LRAM approach has a number of important limitations. Some of the challenges associated with LRAM are discussed below.

LRAM doesn't completely remove the disincentive to implement energy efficiency. In order to demonstrate a loss in revenues, a utility must be able to quantify with some certainty the energy saved by the efficiency programs it implements. Energy savings from some programs such as educational programs for consumers, or development of energy efficiency infrastructures through activities intended to "transform" markets, are difficult or impossible to quantify. Because lost revenue adjustments are limited to measured energy efficiency improvements, they do not eliminate the disincentives to programs for which savings are hard to measure or programs that achieve savings without utility expenditure, such as improved appliance standards and energy codes. The implementation of those types of programs would threaten utility profits as any reductions in sales would not be recovered under an LRAM. Furthermore, reduced sales resulting from measures such as building codes, appliance standards, and government programs are not compensated for and such measures may be opposed by the utility.

An LRAM doesn't remove the "throughput" incentive. An LRAM mitigates the direct disincentive utilities face regarding the provision of efficiency programs to their customers. It doesn't, however, affect the throughput incentive. A simple equation to demonstrate why the throughput incentive persists can be drawn:[6]

[5] Of these 30 states, 21 states have decoupling authorized for one or more electric utilities.
[6] This equation is an oversimplification of a ratemaking formula and is intended for illustrative purposes only.

Utility Revenues = X * Y X = Electricity sales Y = Electricity rates

A regulator approves the utility revenues that may be collected from customers. Electric rates are set to recover these authorized revenues according to the amount of electricity that the utility is expected to sell. Once those rates are set, any change in sales ("X") will affect the utility's revenues. If X decreases below forecasted levels due to energy savings, the utility will lose revenues. An LRAM allows the utility to recover some of those lost revenues, but only to the extent that it can document that the lost revenues are attributable to its programs. Moreover, if X increases, the utility's revenues (and profits) will increase. This affinity for sales increases is known as the "throughput incentive," and, unlike decoupling, LRAM does nothing to mitigate that incentive to increasing energy sales.

LRAMs provide an asymmetrical adjustment to utility revenues. The core rationale for addressing lost revenues is that energy efficiency programs may cause utilities to fail to recover their authorized costs. However, under LRAM, the compensation for direct lost revenues from the efficiency programs takes place, even if (for other reasons, such as economic growth) total electricity sales are actually above the forecasted level. In this situation, the utility is not failing to recover all of its authorized costs, and the core rationale for granting it extra collection of "lost revenues" through an LRAM mechanism does not exist. For that reason, LRAM can be characterized as a "one-sided" mechanism. If an LRAM isn't carefully crafted, a utility may be able to collect extra revenues for a presumed shortfall in authorized revenues that never occurred.[7]

Addressing lost revenues separately from other barriers to efficiency can lead to perverse incentives. Several respondents indicated that tracking the estimates and costs associated with implementation of an LRAM is easier in the context of a comprehensive regulatory approach as opposed to policies that address different aspects of regulation separately. There are examples in several states of either a regulatory body or the utility itself seeking recovery of lost revenues in a separate case independent of a larger demand-side management strategy. In some cases commissions felt the issue was too complicated to address in combination with a broader demand-side management strategy. In others there was too much uncertainty surrounding the proposed mechanism and regulators preferred to address lost revenues on a case-by-case basis. The result of a "patchwork" policy approach is that stakeholders may be confused and the accuracy and consistency of the process may be more difficult to monitor. For example, in Georgia recovery of lost revenues is authorized; however, there is some uncertainty among stakeholders as to whether lost revenues have ever been recovered. In Ohio the Public Utility Commission approved a light bulb replacement program that allowed FirstEnergy to collect lost revenues via a rider. However, due to the cost of the light bulbs and the calculation of lost revenues, the light bulb program would have resulted in customers paying $21.60 in on-bill surcharges over 36 months for a package of two CFL light bulbs, whether they wanted them or not. This resulted in a dramatic public backlash and the program was cancelled shortly after (OH PUC 2009).

A "patchwork" approach also makes it more difficult to properly align incentives. Some experts have suggested that LRAMs can create a perverse incentive for utilities to support efficiency programs that don't actually save energy in practice (Moskovitz, Harrington, and Austin 1992). For example, a utility may be incentivized to claim lost sales based on efficiency programs that didn't effectively reduce sales, allowing the utility to recover revenues for losses it did not truly

[7] One particularly intriguing example would be a situation where the utility was able to sell its excess energy from reduced demand elsewhere, resulting in increased off-system sales. Granting LRAM in such a situation would permit the utility to collect for a presumed revenue shortfall that was recouped elsewhere.

suffer, though this situation can be mitigated by reliable program evaluation, measurement and verification.

Because LRAMs provide utilities with recovery of lost margins associated with utility-operated efficiency programs, they can create an incentive for utilities to resist efficiency programs operated by other entities. Examples may include adoption of new appliance efficiency standards and building codes, which can provide energy savings at lower costs than utility-operated programs, but create similar lost margin effects on earnings. Additionally, programs using tax-exempt financing, such as those operated by low-income weatherization agencies or state programs targeted at public buildings and schools, can be very economical, but may create lost margins for utilities. If an LRAM causes utilities to oppose these "parallel" programs because utilities will not recover lost margins associated with these programs, the result can be a loss of overall economic welfare.

Evaluation, measurement, and verification of energy savings can be controversial. Typically, a utility shows that revenues were lost due to energy efficiency by demonstrating that certain energy efficiency programs resulted in energy savings. Methods of EM&V of energy savings vary widely, and this can lead to controversy. States use a variety of EM&V methods such as deemed savings, billing analysis, and engineering estimates (with or without independent third-party verifiers). While some of these approaches are well established and consistent methods for reliably evaluating, measuring, and verifying energy savings, there is still significant variation in which approach a state will require and what requirements the state may specify with regard to approved EM&V methods.

More fundamentally, it is important to understand that any energy program evaluation result is, by necessity, an "estimate." That is because the evaluation must compare the observed result to what would have occurred absent the program, which cannot be known with absolute certainty. While there are sound scientific methods for producing reliable estimates of savings, parties with a vested interest can always argue about certain assumptions or methodologies used in the evaluation. For example, Dominion Virginia Power's lost revenue recovery request was recently denied because the Virginia Corporation Commission determined that the company did not meet its "burden to establish that its proposed revenue reductions 'occur[red] due to measured and verified decreased consumption of electricity caused by energy efficiency programs approved by the Commission…'" (VA SCC 2011). When the financial amounts at stake in an LRAM case are large, there is potential for substantial argument over EM&V.

In addition, rigorous EM&V procedures can be expensive. Increasing the precision and reliability of results will often increase the cost of the evaluation methodology.

Several respondents provided suggestions for how states might seek to reduce the likelihood that EM&V would be a challenge:

- It is important for states to clarify the methodologies used for making EM&V calculations at the start of the program cycle. While an evolution of approaches over time has served some states well, changing approaches during a program cycle has caused significant problems. For example, EM&V is a cost that a utility would consider when evaluating which efficiency programs to fund. This cost could vary significantly depending on the stringency of EM&V required. If a utility funds an efficiency program and the regulator changes the required methodology during the middle of the program, this could cause the measure to fail to meet a cost-benefit test after it was already funded.

- Establishing a dispute resolution method at the outset of an LRAM can reduce controversy when EM&V conflicts do arise.

- Even in states where EM&V methodology was not controversial, implementation was sometimes complicated and burdensome because the methods that were selected were expensive as compared to the size of the efficiency programs.

- Approaches for recovery of lost revenues vary significantly across states; however, formal regulatory cases are an almost universal method used to determine how much an investor-owned utility may collect from consumers. Though there is no standard model, annual regulatory cases addressing recovery of revenues lost in the prior year is the most common practice. A limit of up to three years between cases is often imposed.

- EM&V for LRAMs should include actual savings based on experience following program implementation. In many instances EM&V may need to be based on estimates, particularly if lost revenues are forecasted. In these cases it is important to conduct EM&V to verify that forecasts and actual experience align helping to ensure that savings are "real."

The time delay between rate-cases is an important issue for some states. During the past couple of decades, many states have seen the interval between utility rate cases stretch to as much as five or even ten years. Rates were set based on a number of variables including forecasted energy sales. Accurately forecasting five to ten years into the future poses serious challenges. The Montana Public Service Commission has identified several of these challenges, recognizing that advanced calculations of utility sales and revenues is an "imprecise science" and that demand may be affected by a wide range of factors such as load growth, abnormal weather, shifts in general economic conditions, and changes in customer end-use behavior (MT PSC 2005). The financial health of the utility is contingent on the outcome of this process, making the process "high stakes." In addition, a utility needing approval from its regulator sometimes faces contradictory forecasts from other stakeholders to the process. Developing and supporting these forecasts can be expensive and time consuming for a utility. All of these factors make policy mechanisms that permit more frequent adjustments based on actual experience, such as LRAM and decoupling, particularly important. However, a number of states are holding more frequent rate cases where they address lost revenues based on estimated savings from energy efficiency programs that can be regularly adjusted based on actual experience. Some utilities have expressed a preference for this approach. For example, in Virginia utilities have the option of addressing lost revenues via an LRAM rider. However, Dominion Virginia Power recently applied for lost revenues to be addressed in a regular rate case instead of the annual rider (VA SCC 2011). In states that move towards regular and frequent rate cases where rates can be adjusted for energy savings estimates and trued-up to actual experience, LRAMs, which deal with this issue independent of the state's larger approach to energy efficiency, can make less sense.

Furthermore, long periods between rate cases can mean that many years of efficiency savings are isolated in an LRAM rider before being incorporated into base rates. Totaling many years of savings can result in a large, isolated dollar amount that can attract public and political attention. There is evidence that treating efficiency savings separately in this way has resulted in public and political opposition to programs in a number of states. Hawaii is an example where this occurred. Hawaiian Electric Company recovered lost revenues for 9 years before they were incorporated into a rate case. In addition, the utility was able to recover lost margins for the entire period even though actual retail sales had increased and no new power plants had been constructed. The utility was able to recover lost revenues and increased sales using the same generating assets (HI PUC 2009). In Minnesota lost revenues appeared to have a significant impact on rates and the LRAM mechanism was abandoned (MN PUC 1999).

LRAM vs. Decoupling. This study did not evaluate decoupling; however, numerous previous publications have discussed or compared these two policy approaches (e.g., Kushler, York, and Witte 2006; NAPEE 2007). Many of the pros and cons from these various sources are summarized in Table 5.

Table 5: Pros and Cons of LRAM*

Pros
Removes or mitigates disincentive to energy efficiency investment in approved programs caused by under-recovery of authorized revenues
Reduces volatility of utility earnings from specified efficiency measures
May be more acceptable to parties uncomfortable with decoupling
Cons
Does not remove the throughput incentive to increase sales
Does not remove the disincentive to support other energy savings policies
Proper recovery (no over- or under-recovery) depends on precise evaluation of program savings, which can be costly
Creates perverse incentives since most profitable programs will be those that look best on paper and save the least actual energy in practice
May increase controversy of rate cases

* Chart modified from NAPEE 2007.

CONCLUSIONS AND RECOMMENDATIONS

States that had experience with LRAM in the 1990s have largely moved away from this approach. However, in the past few years, LRAM has been approved in quite a few new states. The states where regulators have recently approved LRAM are mostly states that are only recently focusing on energy efficiency and that have limited financial investment and experience in efficiency programs by utilities. In most of the states with an LRAM, experience with the mechanism is too recent or limited (e.g., it just applies to a few programs) for implementation experience to be evaluated. In the few states with more significant recent experience, we find that data is either not available or not reported in a way that permits a comparison between forecasted energy savings and actual experience.

Given the lack of recent data, we recommend that this research should be repeated in a few years after there is more LRAM implementation experience to evaluate.

For states that are now considering LRAM, our research, as well as prior research by the Regulatory Assistance Project, National Action Plan for Energy Efficiency, and ACEEE[8] suggest that there is a variety of concerns with LRAM and states should proceed with caution. As noted in Table 4, there is a variety of risks and unintended consequences that may be associated with LRAM. Therefore, we recommend that states carefully compare the pros and cons of LRAM, decoupling, and regular rate cases for addressing lost revenue.

If states do elect to proceed with LRAM, we recommend:

- LRAM recovery should be limited to short periods (no more than three years) and not be used as a substitute for regular rate-cases. Because LRAM is based on estimated impacts and not actual sales, LRAM could cause utilities to over-collect or under-collect lost revenues. A regular true-up through rate cases is needed.

- Accurate evaluation of energy savings is critical for successful implementation of LRAM. Evaluation methods should be clearly specified and should estimate net energy savings (net of what would happen without utility programs). Evaluation methods should also be based on national best practice protocols, such as savings estimates verified with metering, billing analysis (analyzing bills from a statistical sample of program participants

[8] See discussion in the section above.

and non-participants), or other forms of field verification. Evaluations should either be conducted by independent parties and/or reviewed by independent evaluation experts.

- LRAM adjustments should be subject to a demonstration that the utility actually suffered a shortfall in authorized revenues. This can be done by comparing actual sales in a year to the sales forecast used in the last rate case to determine rates. Only if actual sales are less than the sales projection used to determine rates should lost revenues be compensated for. In addition, if the utility is able to sell its excess energy savings elsewhere resulting in increased off-system sales, the impact of these off-system sales on revenues should be factored into the lost revenue calculations. Any lost revenue recovery should also take into consideration avoided costs resulting from efficiency programs and any increases in sales caused by the utility program activities.

We also note that LRAM is intended to only address lost revenues caused by programmatic energy efficiency actions. In addition to addressing the disincentive to efficiency created by lost revenues, states should help level the playing field between investments in new power plants and investments in efficiency by providing utilities with a positive incentive for meeting energy savings goals. A recent ACEEE report discusses the options and experience in detail (Hayes et al. 2011).

Based on this initial review, it is clear that a growing number of states recognize and acknowledge the financial disincentives faced by utilities in promoting, funding, and achieving energy savings through customer energy efficiency programs. LRAM is a policy tool intended to address one component of these disincentives. Modern experience with LRAM is limited; experience with LRAM in the early 1990s highlighted some problems associated with this approach. We encourage continued monitoring of and reporting on these current efforts with LRAM to better assess and analyze state experience with this policy tool.

In conclusion, we believe that if utilities are to be expected to play a willing and positive role in advancing energy efficiency among their customers, it is critical to reasonably address the economic concerns that utilities face—including the concern that customer energy efficiency reduces utility sales revenues. We recommend that states carefully compare the pros and cons of LRAM, decoupling, and other regulatory approaches such as frequent rate cases, in order to address the reduced sales revenue issue in a manner that is fair to utilities and ratepayers, and effectively advances energy efficiency.

CONTACTS

Andy Satchwell	Lawrence Berkeley National Laboratory
Barbara Keene	Arizona Corporation Commission
Carol Stemrich	Wisconsin Public Service Commission
David Moskovitz	Regulatory Assistance Project
Dean Harless	Southern Company
Dylan Sullivan	Natural Resources Defense Council
Ellen Zuckerman	Southwest Energy Efficiency Project
Estrella Seese	Hawaii Department of Business, Economic Development and Tourism
Howard Geller	Southwest Energy Efficiency Project
Jill Tauber	Southern Environmental Law Center
Jim Wontor	Arizona Public Service
John Sibley	Southeast Energy Efficiency Alliance
Keith Hay	Colorado Public Utilities Commission
Phyllis Reha	Minnesota Public Utilities Commission
Ralph Cavanagh	Natural Resources Defense Council
Rich Sedano	Regulatory Assistance Project
Samantha Williams	Midwest Energy Efficiency Alliance
Sheryl Carter	Natural Resources Defense Council
Steven Wiel	Collaborative Labeling and Appliance Standards Program
Tammy Fiebelkorn	Southwest Energy Efficiency Project
William Prindle	ICF International
Wilson Gonzalez	Office of the Ohio Consumers' Counsel

BIBLIOGRAPHY

[FL PSC] Florida Public Service Commission. December 30, 2009. *Final Order Approving Numeric Conservation Goals.* Document 12263-09. Tallahassee, FL: Florida Public Service Commission.

Hayes, S., S. Nadel, M. Kushler, and D. York. 2011. *Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency.* Washington, D.C.: American Council for an Energy-Efficient Economy.

[HI PUC] Hawaii Public Utilities Commission. 2009. "DSM Programs Impact Evaluation Report (HECO, HELCO, MECO)." February 27. Docket No. 2007-0341. Honolulu, HI: Hawaii Public Utilities Commission.

[IN URC] Indiana Utility Regulatory Commission. 2011. *Final Order.* Cause No. 43839. April 27. Indianapolis, IN: Indiana Utility Regulatory Commission.

———. 2011. *Final Order.* Cause No. 43623. June 11. Indianapolis, IN: Indiana Utility Regulatory Commission.

Institute for Electric Efficiency. 2010. *State Energy Efficiency Regulatory Frameworks.* Washington, D.C.: Institute for Electric Efficiency.

[KY PSC] Kentucky Public Service Commission. May 29, 2009. Order for Case No. 2009-00068. Frankfort, KY: Kentucky Public Service Commission.

———. 2008. *Adjustments to DSM Cost Recovery Components for Kentucky Utilities Company.* Case No. 2000-00459 and 2007-00319. December 5. Frankfort, KY: Kentucky Public Service Commission.

Kushler, M., D. York, and P. Witte. 2006. *Aligning Utility Interests with Energy Efficiency Objectives: A Review of Recent Efforts at Decoupling and Performance Initiatives.* Washington, D.C.: American Council for an Energy-Efficient Economy.

[LA PSC] Louisiana Public Service Commission. February 11, 2011. Docket No. R-31106. http://files.harc.edu/sites/gulfcoastchp/policy/louisiana/psc_31106_ee/31106_questionnaire_2.pdf. Baton Rouge, LA: Louisiana Public Service Commission.

Lazar J., F. Weston, and W. Shirley. 2011. *Utility Revenue Regulation and Decoupling: A Guide to Theory and Application.* Burlington, VT: Regulatory Assistance Project.

Magraw, C. 2010. "Comments of the Natural Resource Defense Council and the Renewable Northwest Project." Docket No. N2010.6.57. Helena, MT: Department of Public Service Regulation.

[MN PUC] Minnesota Public Utilities Commission. 1999. *Order of the Minnesota Public Utilities Commission.* July 27. Docket No. E-002/M-99-419. Minneapolis, MN: Minnesota Public Utilities Commission.

Molina, M., M. Neubauer, M. Sciortino, S. Nowak, S. Vaidyanathan, N. Kaufman, and A. Chittum. 2010. *The 2010 State Energy Efficiency Scorecard.* Washington, D.C.: American Council for an Energy-Efficient Economy.

Moskovitz D., C. Harrington, and T. Austin. 1992. *Decoupling vs. Lost Revenues Regulatory Considerations.* Burlington, VT: Regulatory Assistance Project.

[MT PSC] Montana Public Service Commission. 2005. *In the Matter of the Application of NorthWestern Energy's Electric Default Supply Tracker Filing.* Docket Nos. D2003.6.77 and D2004.6.90. December 16. Helena, MT: Montana Public Service Commission.

[NAPEE] National Action Plan for Energy Efficiency. 2007. *Aligning Utility Incentives with Investment in Energy Efficiency.* Prepared by Val R. Jensen, ICF Intl. Washington, D.C.: U.S. Department of Energy and U.S. Environmental Protection Agency.

Neubauer, M. 2010. *Arkansas Public Service Commission (APSC) Issues 10 Orders Designed to Expand the Energy Efficiency Efforts of Utilities.* Washington, D.C.: American Council for an Energy-Efficient Economy.

[NM PRC] New Mexico Public Regulation Commission. 2010. "Application of El Paso Electric Company for Approval to Recover Regulatory Disincentives and Incentives Associated with Energy Efficiency and Load Management Programs." Case No. 10-00266-UT. August 31. Santa Fe, NM: New Mexico Public Regulation Commission.

[OH PUC] Ohio Public Utilities Commission. 2009. "Statement from PUCO Chairman on FirstEnergy's compact fluorescent light bulb program." October 7. http://www.puco.ohio.gov/puco/index.cfm/media-room/media-releases/statement-from-puco-chairman-on-firstenergye28099s-compact-fluorescent-light-bulb-program/. Columbus, OH: Ohio Public Utilities Commission.

Sedano R. (The Regulatory Assistance Project). 2011. Personal Communication with Sarah Hayes. August 15.

Tucson Electric Power Company. 2011. 'Tucson Electric Power Company 2011-2012 Electric Energy Efficiency Implementation Plan." January 31. Tucson, AZ: Tucson Electric Power Company.

[VA SC] Virginia State Corporation Commission. 2011. *Order of the Virginia State Corporation Commission.* Case No. PUE-2010-00084. March 22. Richmond, VA: Virginia State Corporation Commission.

APPENDIX A: STATE SUMMARIES

COLORADO

Policy	Scope	Description	How Lost Revenues Are Recovered	Energy Saved	Dollars Recovered	Ceiling for Recovery	Timing
Demand-Side Management Cost Adjustment Mechanism	Public Service Company of Colorado (PSCo)	Fixed amount earned for achievement of 80% of savings goal	Fixed payment for implementation of program is viewed as an "incentive" by regulators	2009: 219,611 MWh 308,761 Dth	$2,000,000 per year	$2,000,000 per year	Annual recovery in following year
Partial Decoupling—3 year pilot	Gas utilities	Rider applied to base rate gas service revenues to compensate for prior year's changes in weather-normalized use per customer	Rates are adjusted for the year following a measured decrease in demand		PSCo[9] July 2007-June 2008: No rate increase requested	NA	Rates increased the year following demand decrease

NARRATIVE SUMMARY

In 2007 the Colorado legislature passed a bill that provides that the Public Utilities Commission (PUC) "shall allow an opportunity for a utility's investment in cost-effective DSM programs to be more profitable to the utility than any other utility investment that is not already subject to special incentives."[10]

Demand-Side Management Cost Adjustment Mechanism

The 2009/10 Demand-Side Management (DSM) Plan was approved in 2008.[11] This plan was intended to remove disincentives to efficiency, offset revenue and earnings erosion and reward utility performance, among other things.[12] The PUC indicated that it is not appropriate and likely not

[9] Colorado Public Utilities Commission. Docket No. 08L-413G. September 2008. https://doraimage.state.co.us/LibertyIMS::/sidFQ0GPxVEnxDumu9a/Cmd%3D%24%24F477YBsPpSAbHJ%3BEx6yNK%3D%23FHI%3BIrz%3Dt57p5%3BozZh%3Dw%3Bc-hBe%3D_B_f57A37P1j7b3w79zh331TN.

[10] Session Laws of Colorado 2007 First Regular Session, 66th General Assembly. Chapter 253 Section 40-3.2-104(5)(House Bill 07-1037) http://www.state.co.us/gov_dir/leg_dir/olls/sl2007a/sl_253.htm.

[11] Public Utilities Commission of the State of Colorado. Order Granting Application in Part. Decision No. C08-0560. Docket No. 07A-420E. Adopted May 23, 2008. https://doraimage.state.co.us/LibertyIMS::/sid3Lw6SbHBdak22P4X/Cmd%3D%24%243B0FhhKKzpkzHVdJYk%3BGZC4pI%3D%23vpc%3BA7J%3DIAPhV%3BSlsD_O%3DWv_%3BcsrvA%3DbZj9T-l1XbdTnlpMZ55YghFP7

feasible to define in a docket the lost margins resulting from DSM.[13] Instead it addressed the financial disincentives of DSM with a fixed payment of $2 million after taxes (approximately 3.2. million gross) for each year that 80% of the annual energy savings goal for an approved DSM plan is achieved. This amount is recovered over the 12month period following the year in which the DSM plan is implemented. The PUC specifically notes that this "disincentive offset" should not be considered lost margin recovery, but is an annual bonus for meeting approved DSM goals. The $2 million disincentive offset can be adjusted downward in future years if the 80% target is not met although it was reported that the 80% target is so easily achieved as to make the payment almost automatic upon DSM program implementation. Incentives are also included in the mechanism and utilities achieving efficiency targets can earn a percentage of the net economic benefits generated by those savings. Combined total incentive payments are capped at 20% of PSCo's annual DSM expenditures. The mechanism is to be reevaluated in 2010 during the Public Service's second biennial DSM plan.

Partial Decoupling—Three-Year Pilot

In 2007, the PUC also approved a "Partial Decoupling Rate Adjustment Factor" for residential gas customers as part of a three-year pilot program.[14] The proposed mechanism is implemented through a rider applied to the company's base rate gas service revenues to compensate for the prior year's changes in weather-normalized use per customer. This is a three-year pilot program, initially set to run from October 1, 2008 to September 30, 2011. If revenue per residential customer declines more than 1.3% per year, the rate adjustment is updated to recover reduced weather-normalized revenues due to reduced usage per customer. This value (1.3%) was chosen because it equals 1/2 of the historic rate of decline referenced in PSCo testimony

[12] Id at page 29.
[13] Id at 33.
[14] Colorado Public Utilities Commission. Docket No 06S-655G. Decision No. C07-0568. July 2007. https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_session_id=&p_dec=10220

GEORGIA

Policy	Scope	Description	How Lost Revenues Are Recovered	Dollars Recovered	Energy Saved	Ceiling for Recovery	Timing
Additional sum	Georgia Power Company—The Power Credit Single Family Program (PCSF). Recently expanded to included several additional programs	Utility collects additional sum based on success of approved program to cover shareholder incentive and lost revenues	Demand-side management residential rider (DSM-R-1) collected to cover additional sum and program costs	GP reports that the additional sums collected do not include any charges for lost revenues	2001-2009: 97,986 kW (1.96 kW per home)	None	Annual filing

NARRATIVE SUMMARY

The Georgia Code directs the commission to "consider lost revenues ….between the utility and its retail customers." [15] A utility may recover costs and an "additional sum" for approved programs.[16] According to the Governor's Office of Consumer Affairs, Consumers' Utility Counsel Division the purpose of the additional sum "is to compensate the utility for lost revenues and increased risks as a result of implementing conservation, load management, cogeneration, and/or renewable energy technologies."[17] The Power Credit Single Family Program (PCSF) was the first demand response program certified to allow Georgia Power to earn an additional sum.[18] The additional sum was based on program participation and net benefits of the program and includes a shareholder incentive. GP was approved to collect a demand-side management residential rider (DSM-R-1) which is described as collecting the projected program costs and an additional sum amount.[19] According to feedback from GP this rate actually includes only program costs (no incentive or recovery for lost revenues), however we were unable to verify this through official filings.

[15] O.C.G.A. Section 46-3A-9. http://www.lexisnexis.com/hottopics/gacode/Default.asp

[16] O.C.G.A. § 46-3A-9. http://www.lexis-nexis.com/hottopics/gacode/

[17] Letter from Governor's Office of Consumer Affairs, Consumers' Utility Counsel Division dated June 7, 2005 Re: Dockets No. 19279-U & 4822-U; Petition of Biomass Gas & Electric, Proxy Unit Methodology.

[18] Stipulation In Re George Power Application for Approval of 2007 Integrated Resource Plan. July 12, 2007. Docket 24504. Document 103961. http://www.psc.state.ga.us/facts/docftp.asp?txtdocname=103961

[19] Electric Service Tariff for Georgia Power. DSM-R-1. http://www.georgiapower.com/pricing/pdf/12.00_DSM-R-1.pdf

Residential Power Credit Program

Budget	Utility Costs	Estimated Annual kW Reductions (cumulative years 2001-2009)
$2,066,765	$617,403	97,986

The mechanism was revised in 2010 such that GP receives a lower percentage of actual net benefits of electricity savings.[20] GP chose not to seek lost revenues as part of the additional sum but, instead, to deal with lost revenues in a rate case. However, the additional sum has now been approved for several additional energy efficiency programs in addition to PCSF and lost revenues may be collected in coming years.

[20] Final Order on Georgia Power's Application for Approval of its 2010 Integrated Resource Plan. July 6, 2010 Docket 31082. Document 129661.

HAWAII

Policy	Scope	Description	How Lost Revenues Are Recovered	Dollars Recovered	Energy Saved	Ceiling for Recovery	Timing
DSM incentive	HECO	Incentive mechanism that included program costs, lost revenues and an incentive	Fixed cost shortfalls recovered each year until reduced sales incorporated into base rates	NA	2009: 10.4 MW and 55,068 MWh (gross annualized)/ 39,438 (MWh net)	NA	Initially 9 years. HECO proposed 3 year interval.

NARRATIVE SUMMARY

HECO's utility incentive mechanism recovered incremental demand-side management program costs, lost revenues and a share of savings incentive. As of 2005 HECO would recover any shortfalls in fixed costs each year until the reduced sales resulting from the DSM programs were incorporated into base rates through a rate case. The interval between HECO's initial implementation of its DSM programs and the test year 2005 rate case was 9 years. HECO proposed that recovery for a shortfall in the contribution to fixed costs resulting from the reduction in electricity sales be capped at three years.[21]

Criticism of this mechanism focused on the very long period during which lost margins could be recovered. The mechanism was established after a 1992 general rate case, and another rate case did not occur until 2008. The utility recovered lost margins for some energy efficiency measures for this entire period, even though its actual retails sales had increased, and no new power plants were constructed. To the extent that the utility was able to deploy generating capacity made surplus by efficiency, it was able to recover both lost margins for the efficiency savings and gained margins (for the incremental sales to a growing customer base) from the same generating assets. This lead the state Consumer Advocate to petition for termination of the mechanism, and ultimately to adoption of a decoupling approach to lost margins.

In the 2009 program year, HECO's Energy Efficiency DSM programs produced a gross reduction in capacity requirements of 10.4 MW and gross annualized energy savings of 55,068 MWh (39,438 MWh net).[22] In recent years Hawaii has aggressively pursued efficiency goals and has transferred operation of demand-side management programs to third-party administrators.[23] In 2010 the LRAM mechanism was terminated and Hawaii adopted full decoupling.

[21] Hawaii Public Utilities Commission Decision and Order No. 23258. Docket No. 05-0069. February 13, 2007.
[22] Hawaii Public Utilities Commission. "DSM Programs Impact Evaluation Report (HECO, HELCO, MECO)." Docket No. 2007-0341. Filed February 27, 2009.
[23] Securing a Clean Energy Future for Hawai`i. Website of Governor Linda Lingle. April 2009 newsfile. http://hawaii.gov/gov/news/files/2009/april/puc

KENTUCKY

Policy	Scope	Description	How Lost Revenues Are Recovered	Dollars Recovered	Energy Saved (MWh)	Ceiling for Recovery	Timing
Authorized by Kentucky Revised Statute[24]	Electric and gas—Kentucky Power (AEP), Duke Energy and LG&E	Estimated lost revenues based on estimated savings multiplied by the marginal rate of electricity (excluding variable costs)	Tariff rider subject to a true-up	[$]	AEP[25] 2007: 4,727 2008: 5,064 Duke[26] 2007-2008 (12 month period): 28,300	NA	Annual calculations—recovery limited to a three year period or the next rate case.

NARRATIVE SUMMARY

The Kentucky Public Service Commission (PSC) is authorized to approve demand-side management mechanisms that allow utilities to recover revenues lost by implementation of such programs. Lost revenue recovery is determined on a case-by-case basis, but Duke, AEP and LG&E all have similar lost revenue recovery methods in place. Generally, lost revenues are calculated as follows:

> Lost revenues = (marginal rate - minus variable costs) * estimated kWh savings from a DSM measure

Recovery is limited to a three-year period or until the next rate case. The PSC does not statutorily require utilities to do EM&V. The PSC from time to time may make data requests of the utilities if they plan to add or continue programs to assess their effectiveness. Natural gas utilities use a similar system to the one described above.

LG&E

Lost sales are collected based on estimates of annual energy savings and are included in a lost sales rider (DRLS) in the earlier of 3 years or until implementation of a new rate case. At the end of each such period, any difference between the lost revenues actually collected and the lost revenues determined after any revisions of actual program participation are trued-up. Revenues from lost sales are recovered from the rate

[24] Kentucky Revised Statute. KRS Chapter 278.00 Title 285. http://www.lrc.ky.gov/KRS/278-00/285.PDF
[25] Joint Applicants Status Report. August 16, 2010. Kentucky Public Service Commission Case No. 2010-00333
[26] Order of the Public Service Commission. Case No. 2008-00473

classes whose programs resulted in the lost sales. The 2009 estimated lost net revenues for LG&E totaled $619,740 and were based on total energy savings of 18,364 MWh.[27]

Duke

The PSC allows Duke to recover lost revenues via a DSM Cost Recovery Rider (tariff). Lost revenues accumulate over a three-year period from the installation of each measure. A true-up adjustment is calculated based on the difference between the actual DSM revenue requirement and the revenues collected for a calendar year. Duke files an annual report with the PSC. On November 16, 2009, Duke filed an application to increase DSM tariff rates to recover for planned and actual expenditures, lost revenues, and shared savings. The proposed tariff surcharges modified the original surcharges approved by the PSC in May of 2009. On March 22, 2010, Kentucky PSC agreed that Duke's DSM surcharges were reasonable and should be approved. Duke proposed a Save-a-Watt model in Kentucky, but that proposal was withdrawn in January 2010.

Kentucky Power (AEP)

Kentucky Power (AEP) has reported the following lost revenues:
Program-to-date lost revenues as of June 2010: $3,870,575.[28]
June 2010 year to date: $166,495
2009: $274,814 (estimated)[29]
2008: $220,181

In 2010 the estimated lost revenue impacts by sector totaled[30]:
Residential: 4,576 MWh
Commercial: 5.5 MWh
Industrial: 0 MWh

AEP files a semi- annual report, but they are not required to do so.

In 2008 the PSC issued a report finding that decoupling should not be adopted in the immediate future.[31] In 2010 House Bill 240 was passed which reenacted existing legislation supporting lost revenue recovery. In spite of having been in place for decades some observers expressed disappointment that the Kentucky mechanism has not been more widely used. Stakeholders speculated that this may be in part because large industrial customers were carved out, preventing any utility-assisted demand-side management programs in the sector. There was some agreement among observers that the state's approach has failed to motivate utilities to develop energy efficiency, however there was not agreement as to why.

[27] Adjustments to DSM Cost Recovery Components for Kentucky Utilities. Case No. 2000-00459 and 2007-00319. December 5, 2008. http://psc.ky.gov/pscscf/2007%20cases/2007-00319/20081205_ku_revised_tariff_sheets_psc_no_13.pdf
[28] Kentucky Power Company Demand Side Management Status Report. June 30, 2010. Page 3.
[29] Kentucky Public Service Commission. May 29, 2009. Order for Case No. 2009-00068..
[30] Kentucky Public Service Commission. August 16, 2010. Case No. 2010-00333. Page 88.
[31] Kentucky Public Service Commission. 2007. Docket No. 2007-00477.

MONTANA

Policy	Scope	Description	How Lost Revenues Are Recovered	Dollars Recovered	Energy Saved (MWh)	Ceiling for Recovery	Timing
Lost Revenue Recovery Mechanism	NorthWestern Energy	Annual rates adjustments based on estimated energy savings	Annual rate adjustments with periodic true-up	2004-2005 tracking year: $273, 196	2006-2009: average of 45,552 per year[32]	NA	Annual filings including adjustment and true-up

NARRATIVE SUMMARY

For the past several years, NorthWestern Energy has used a lost revenue recovery mechanism that adjusts energy supply rates annually for estimated lost revenues.[33] The mechanism includes annual true-ups based on actual results. The true-up is performed again upon a program evaluation performed every few years.

The Montana Public Service Commission authorized Northwestern to collect estimated lost transmission and distribution revenue adjustments in its annual supply cost recovery filings for 2005-2007 on a preliminary basis.[34] The Commission required Northwestern to file a comprehensive evaluation performed by an independent third-party verifying savings produced from demand-side management programs during this period.

Following publication of the 2007 Electric Resource Procurement Plan, NorthWestern filed a general revenue requirements case and received Final Order 7057b which, among many other things, made effective new transmission and distribution rates beginning January 1, 2008. This order "reset" lost revenues to a zero starting point. Northwestern recovers transmission and distribution revenues lost due to demand-side management or energy efficiency as an electricity supply cost.

NorthWestern has engaged numerous parties in a Public Policy Stakeholders Group process. There are several issues under consideration including alternative ratemaking practices such as decoupling.

[32] Comments of the Natural Resource Defense Council and the Renewable Northwest Project. 2010 Montana Public Service Commission. Docket No. N2010.6.57.

[33] NorthWestern Energy's 2009 Electric Supply Resource Planning and Procurement Plan. http://www.northwesternenergy.com/documents/defaultsupply/plan09/volume1/Chapter2-DSM.pdf

[34] Order of the Montana Public Service Commission. http://psc.mt.gov/eDocs/eDocuments/pdfFiles/D2004-6-90_6574e.pdf

NEVADA

Policy	Scope	Description	How Lost Revenues are Recovered	Dollars Recovered	Energy Saved (MWh)	Ceiling for Recovery	Timing
Lost Revenue Recovery Mechanism	Nevada Power Company and Sierra Pacific Power Company (together doing business as NV Energy)	Annual rates adjustments based on estimated energy savings	Annual rate adjustments with annual true-up	NA	NA	None	Annual filings including adjustment and true-up

NARRATIVE SUMMARY

In 2009 the Nevada legislature mandated that the Public Utility Commission of Nevada (PUCN) establish a mechanism for its investor-owned electric utility companies to "recover an amount based on the measurable and verifiable effects of the implementation by the electric utility of energy efficiency and conservation programs approved by the Commission." The companies eligible are Nevada Power Company and Sierra Pacific Power Company (together doing business as NV Energy). The PUCN adopted a rule creating this mechanism that became effective in July 2010.

The rule eliminated the previous incentive of allowing energy efficiency expenditures to be booked as an investment to earn a rate of return-on-equity 500 basis points higher than that authorized for its supply-side investments. The rule established a new balancing account similar to, and synchronized in timing with, its deferred energy accounting. A prospective expected program expenditure for energy efficiency is established and put into rates for the forthcoming year. Likewise, a prospective recovery of expected lost revenue is established and put into rates for the forthcoming year. At the end of the year, both accounts are trued up based on actual expenditures and actual lost revenues, and rates are adjusted accordingly at the same time as new prospective rates are established for the forthcoming year.

NORTH CAROLINA

Policy	Scope	Description	How Lost Revenues Are Recovered	Costs Recovered	Energy Saved	Ceiling for Recovery	Timing
Save-A-Watt (LRAM)	Duke Energy Carolinas	Lost revenues resulting from energy efficiency programs are recoverable, but are reduced by any avoided costs resulting from efficiency programs and any increases in demand caused by utility activities	Rate rider	NA	NA	NA	Recoverable over 36 months for each year. Annual true-up

NARRATIVE SUMMARY

The North Carolina Utilities Commission has adopted rules that permit recovery of net lost revenues which are collected through a rider process.[35] Both Duke Energy Carolinas and Progress Energy Carolinas have obtained approval of specific provisions.[36]

Duke Energy Carolinas

While the approach is referred to as "Save-A-Watt," it is substantially different from the mechanism of that name operating in Ohio. Net lost revenues are based on revenue losses minus (1) marginal costs avoided at the time of the lost kWh sale and (2) any increases in revenues resulting from Duke's activity that cause a customer to increase demand or energy consumption ("found revenues"). Net lost revenues are recovered over 36 months for each vintage year unless collected earlier in a rate case. True-up occurs annually. Duke's mechanism provides a schedule of estimated net lost revenues for each of six years. Educational, research and development programs are not eligible for recovery.

Progress Energy Carolinas

Progress' mechanism is substantially similar to Duke's, though Progress has no scheduled payments.

[35] North Carolina Utilities Commission Rules and Regulations. Chapter 8, Article 11, Rules R8-68 and R8-69. http://www.ncuc.commerce.state.nc.us/ncrules/Chapter08.pdf

[36] North Carolina Utilities Commission Docket No. E-7, Sub 831 (May 7, 2007) and Docket No. E-2, Sub 931(June 6, 2008).

OHIO

Policy	Scope	Description	How Lost Revenues Are Recovered	Costs Recovered	Energy Saved	Ceiling for Recovery	Timing
Save-A-Watt	Electric—Duke	Revenues recovered based on projected energy savings and the average retail price of energy (excluding fuel). True-up at the end of each 3 year period	Rider applied to bills with credit or charge back true-up in fourth year	NA	NA	None	Annually with a three-year true-up in the fourth year
LRAM	AEP	Net lost distribution revenues are recovered via a rider on an annual basis.	Rider	NA	NA	NA	Recovery continues for three years or until the next base rate case. Savings subject to annual true-up

NARRATIVE SUMMARY

Duke

As of the summer of 2007 Ohio had implemented cost recovery, lost revenue recovery and a shared savings mechanism.[37] Duke originally sought compensation for economic loss of reduced consumption resulting from DSM programs through a set of electric and natural gas riders for residential, commercial and industrial customers (certain industrial customers were permitted to opt-out of participation and payment of the rider). Following a stipulation adopted by the Public Utilities Commission Duke was permitted to recover lost revenues based on future impact studies for three residential programs. Duke also implemented gas furnace programs for which it was entitled to recover associated lost revenues through its electric DSM rider.

As part of a 2008 settlement Duke Energy proposed replacing these mechanisms with the Save-A-Watt program (SAW) which took effect in 2009.[38] Under the SAW program Duke received earnings based on lost revenues for three years following program implementation. At the end of the three-year period (the fourth year) Duke will credit or charge back any difference between the projected energy impacts collected and the actual energy impacts.[39]

[37] Order of the Public Utilities Commission of Ohio. Case Nos. 06-91-EL-UNC, 06-92-EL-UNC and 06-93-GA-UNC. Filed July 11, 2007.
[38] Ohio Public Utilities Commission. Docket 08-920-EL-SSO. December 17, 2008. http://dis.puc.state.oh.us/ViewImage.aspx?CMID=A1001001A08L17B13819A52921
[39] Id at Application Volume II of II.

Lost margins = (Projected energy impacts for all programs for the vintage applicable to the rider period) * (Average retail $/kWh excluding fuel)

Duke hires an independent M&V evaluator (costs are capped at 5% of program costs) to verify energy savings. [40] In spite of this measuring energy savings from the program has been challenging. Duke reports that it has met and exceeded savings goals, however observers note that the programs used to achieve these goals were in place prior to the SAW program. In addition to lost revenues the SAW program awards Duke an incentive in the form of a percentage of the net present value of avoided costs of energy and capacity. From this, Duke pays all program costs (administration, incentives, marketing, M&V, etc.). Significant controversy has surrounded the SAW program which is currently being challenged by the Ohio Consumer's Counsel (OCC).[41] According to the OCC the SAW program permits recovery of avoided costs for energy saved and avoided costs for demand-side management measures arguing that because Ohio is a deregulated state Duke is collecting more than is appropriate. The PUC has yet to rule on the issue.

AEP

In 2010 the Public Utilities Commission of Ohio approved AEP's application for recovery of net lost distribution revenues from approved energy efficiency programs for 2010. The rider (EE/PDR) is subject to annual true-up.[42] A Stipulation Agreement dictates that each EE/PDR program must be cost effective using the Total Resource Cost test. AEP estimates that project expenditures for 2009-2011 will be $161.9 million in incremental costs. AEP works with an EM&V consultant selected by the Commission. As of 2010 six programs were in operation.

FirstEnergy

FirstEnergy proposed lost revenue recovery for efficiency mechanisms in 2009 including a light bulb replacement program. The PUC had approved the plan which allows FirstEnergy to collect lost revenues via a rider. However, due to the cost of the light bulbs and the calculation of lost revenues the light bulb program would have resulted in customers paying $21.60 on bill surcharges over 36 months for a package of two CFL light bulbs, whether they wanted them or not. The program was cancelled shortly after.[43]

Ohio Commissioners have indicated a reluctance to approve future proposal that include the collection of lost distribution of revenues resulting from energy efficiency savings.[44]

[40] Testimony of Theodore E. Schultz on Behalf of Duke Energy Ohio before the Public Utilities Commission of Ohio. Case No. 08-920. Received July 31, 2008. http://dis.puc.state.oh.us/TiffToPDf/A1001001A08G31B73838A58061.pdf

[41] Ohio Public Utilities Commission. Docket 09-1999-EL-POR. December 29, 2009. http://dis.puc.state.oh.us/CaseRecord.aspx?CaseNo=09-1999

[42] Ohio Public Utilities Commission. Docket 09-1089-EL-POR and 09-1090-EL-POR. May 26, 2010 and May 13, 2010. http://dis.puc.state.oh.us/TiffToPDf/A1001001A10E26B41202I76043.pdf and http://dis.puc.state.oh.us/TiffToPDf/A1001001A10E13B14743A88905.pdf

[43] "Statement from PUCO Chairman on FirstEnergy's compact fluorescent light bulb program. October 7, 2009. http://www.puco.ohio.gov/puco/index.cfm/media-room/media-releases/statement-from-puco-chairman-on-firstenergye28099s-compact-fluorescent-light-bulb-program/

[44] Ohio Public Utilities Commission. Docket 09-1947-EL-POR, et al. March 23, 2011.

SOUTH CAROLINA

Policy	Scope	Description	How Lost Revenues Are Recovered	Costs Recovered	Energy Saved	Ceiling for Recovery	Timing
Rate rider (LRAM)	South Carolina Electric & Gas Company (SCANA)	Revenues are collected based on forecasted reductions in demand charges and sales and trued-up to actual data. Rider is reset with rate case.	Rate rider	NA	NA	NA	Annual true-up

Duke Energy Carolinas, Progress Energy Carolinas, and South Carolina Electric & Gas Company (SCANA) have all reached settlement agreements establishing a mechanism for the recovery of lost revenues.[45] Lost revenues will all be calculated and presented for review and recovery through a rate rider during an annual proceeding.

SCANA's Mechanism:

Lost revenues will be based on forecasted participation by customer class each year for each measure. Lost revenues include reductions in demand charges and MWh sales, but do not include reductions that would have occurred in the absence of efficiency programs. True-up is based on actual market penetration and savings data and occurs annually. The rider is reset and lost revenues will be folded into rates upon a new rate case.

EM&V will use industry-accepted protocols and will be conducted in each program year by either an independent third-party or regulatory staff.

Duke Energy Carolinas and Progress Energy Carolinas

These mechanisms are modeled after those in North Carolina (see description above).

[45] Orders of the Public Service Commission of South Carolina Docket No. 2008-251-E, Order No. 2009-373 (June 26, 2009) and Docket No. 2009-226-E, Order No. 2010-79 (January 27, 2010) and Docket No. 2009-261-E, Order No. 2010-472 (July 15, 2010).

VIRGINIA

Policy	Scope	Description	How Lost Revenues are Recovered	Costs Recovered	Energy Saved	Ceiling for Recovery	Timing
Rate rider (LRAM)	Electric—Dominion Virginia Power	Utility may petition Commission for rate adjustment to recover lost revenues less off-setting activities by the utility.	Rate rider	None—request declined	NA	NA	Utility may apply annually

NARRATIVE SUMMARY

The state provides for the recovery of revenue reductions related to energy efficiency programs through a rider.[46] The utility may petition the Commission for approval of rate adjustments for the recovery revenue reductions related to energy efficiency programs which are defined as: "reductions in the collection of total non-fuel revenues, previously authorized by the Commission to be recovered from customers by a utility, that occur due to measured and verified decreased consumption of electricity caused by energy efficiency programs approved by the Commission and implemented by the utility…."[47] The LRAM also requires that if the utility is able to sell its excess energy savings elsewhere resulting in increased off-system sales, the impact of these off-system sales on revenues must be factored into the lost revenue calculations.

Dominion Virginia Power applied for recovery of lost revenues in a regular rate case as part of its application to continue its DSM riders. Dominion sought recovery of lost revenues caused by its CFL price reduction program.[48] The Commission denied Dominion's lost revenue recovery request because it determined that the company did not meet its "burden to establish that its proposed revenue reductions 'occur[red] due to *measured* and *verified* decreased consumption of electricity caused by energy efficiency programs approved by the Commission…'" (emphasis in order). The Commission held that Dominion failed to provide "sufficient evidence for the Commission to measure and to verify that a specific amount of decreased consumption of electricity was directly caused by the CFL program."

[46] Code of Virginia Section 56-585.1 A 5.
[47] Code of Virginia Section 56-576.
[48] Order of the Virginia State Corporation Commission. March 22, 2011. Case No. PUE-2010-00084.

WYOMING

Policy	Scope	Description	How Lost Revenues are Recovered	Costs Recovered	Energy Saved	Ceiling for Recovery	Timing
Load Management Tracking Adjustment (LMTA) mechanism	Electric—Montana-Dakota Utilities Company (MDU)	Per kWh adjustment for lost revenue from reduced electricity sales due to load management programs	Adjustment to rates of all retail customers	2008: 0.005 cents per kWh	NA	None	Rate adjustment filed annually and amortized over the next year. Annual true-up

NARRATIVE SUMMARY

In its Electric Resource Plan (ERP) Montana-Dakota Utilities Company MDU proposed a Load Management Tracking Adjustment (LMTA) mechanism to track and recover the costs and lost revenues associated with implementation of load management programs. The Wyoming Public Service Commission (PSC) approved the LMTA in 2007.[49] The rate adjustments under the LMTA are filed annually and the first adjustment was effective January 1, 2008. These adjustments net the costs of administering and executing the program and the savings in power purchases. An adjustment per kilowatt-hour is determined and reflects the lost revenue attributable to reduced electricity sales resulting from load management programs as follows[50]:

> kWh Savings * Number of units installed during 12-month period
>
> kWh Savings are assigned to each type of unit installed under a variety of conservation measures such as 74 kWh for a refrigerator and 669 kWh for a residential central air.

The adjustment is applied to all electric retail customers of MDU regardless of participation.

MDU had requested lost revenue recovery for natural gas distribution sales lost to conservation programs. The request was later revised and the lost revenue request was dropped. The Commission approved a decoupling mechanism for Questar Gas Company in May 2009.[51]

[49] Wyoming Public Service Commission. Docket No. 20004-65-ET-06. Filed on August 31, 2006. http://psc.state.wy.us/htdocs/orders/20004-65-16578.htm.

[50] Montana-Dakota Utilities Co. Electric Rate Schedule. Docket No. 20004-0069-EP-07. Load Management Tracking Adjustment. Rate 55. W.P.S.C. Tariff No. 4. 4th Revised Sheet No. 60. Approved January 1, 2008. http://psc.state.wy.us/htdocs/tariffs/wy_mdu1/0001a.pdf

[51] in Docket No. 30010-94-GR-8.